Amendments to the Claims

The following listing of the claims will replace all prior versions, and listings of the claims in the application:

Listing of Claims

1.   (Canceled)

2.   (Canceled)

3.   (Currently amended)   A method for deriving spectral sensitivity characteristics of a color image input device, comprising:

a step of setting a constraint that tristimulus values of metamer data perceived to be the same in color by observation in a color matching evaluation experiment are made equal, to said metamer data;

a step of obtaining a third objective function by assigning weights to a first objective function including a standard color matching function and to a second objective function in a uniform color space and by binding these two objective functions together;

a step of obtaining, by using the method of Lagrange multipliers, a correcting color matching function used for correction to make said third objective function minimum under said constraint;

a step of obtaining an amended color matching function to be amended based on a sum of said obtained correcting color matching function and said standard color matching function; and

a step of obtaining spectral sensitivity characteristics amended by using said amended color matching function, ~~The method for deriving the spectral sensitivity characteristics according to Claim 1,~~ wherein said metamer data includes spectral distribution data of light from an illuminant in an environment where said color matching evaluation experiment is performed, a spectral reflectance factor of a reference color stimulus used in said color matching evaluation experiment, and spectral reflectance factors of two or more color stimuli perceived to be the same in color as said reference color stimulus by observation in said

color matching evaluation experiment.

4.   (Currently amended)   A method for deriving spectral sensitivity characteristics of a color image input device, comprising:

a step of setting a constraint that tristimulus values of metamer data perceived to be the same in color by observation in a color matching evaluation experiment are made equal, to said metamer data;

a step of obtaining a third objective function by assigning weights to a first objective function including a standard color matching function and to a second objective function in a uniform color space and by binding these two objective functions together;

a step of obtaining, by using the method of Lagrange multipliers, a correcting color matching function used for correction to make said third objective function minimum under said constraint;

a step of obtaining an amended color matching function to be amended based on a sum of said obtained correcting color matching function and said standard color matching function; and

a step of obtaining spectral sensitivity characteristics amended by using said amended color matching function, ~~The method for deriving the spectral sensitivity characteristics according to Claim 1,~~ further comprising a step of excluding an inexact metamer data that is observed in said color matching evaluation experiment.

5.   (Canceled)

6.   (Canceled)

7.   (Canceled)

8.   (Currently amended)   A spectral sensitivity characteristic deriving apparatus for obtaining spectral sensitivity characteristics, comprising:

a metamer data processing section to set a constraint that tristimulus

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values of metamer data perceived to be the same in color by observation in a color matching
evaluation experiment are made equal, to said metamer data;

an objective function setting section to obtain a third objective function by
assigning weights to a first objective function including a standard color matching function and
to a second objective function in a uniform color space and by binding these two objective
functions together; and

an amended color matching calculating and processing section to obtain,
by using the method of Lagrange multipliers, a correcting color matching function used for
correction to make said third objective function minimum under said constraint, to obtain an
amended color matching function to be amended based on a sum of said obtained correcting
color matching function and said standard color matching function and to obtain spectral
sensitivity characteristics amended by using said amended color matching function, ~~The spectral
sensitivity characteristic deriving apparatus according to Claim 5,~~ wherein said metamer data
includes spectral distribution data of light from an illuminant in an environment where said color
matching evaluation experiment is performed, a spectral reflectance factor of a reference color
stimulus used in said color matching evaluation experiment, and spectral reflectance factors of
two or more color stimuli perceived to be the same in color as said reference color stimulus by
observation in said color matching evaluation experiment.

9.   (Currently amended) A spectral sensitivity characteristic deriving
apparatus for obtaining spectral sensitivity characteristics, comprising:

a metamer data processing section to set a constraint that tristimulus
values of metamer data perceived to be the same in color by observation in a color matching
evaluation experiment are made equal, to said metamer data;

an objective function setting section to obtain a third objective function by
assigning weights to a first objective function including a standard color matching function and
to a second objective function in a uniform color space and by binding these two objective
functions together; and

an amended color matching calculating and processing section to obtain,
by using the method of Lagrange multipliers, a correcting color matching function used for

correction to make said third objective function minimum under said constraint, to obtain an amended color matching function to be amended based on a sum of said obtained correcting color matching function and said standard color matching function and to obtain spectral sensitivity characteristics amended by using said amended color matching function, ~~The spectral sensitivity characteristic deriving apparatus according to Claim 5,~~ further comprising a conditional expression ~~judgement~~ judgment processing section to exclude an inexact metamer data that is observed in said color matching evaluation experiment.